International Seabed Authority

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Legal and Technical Commission

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Application for approval of a plan of work for exploration for polymetallic nodules

Executive summary*

I. Introduction

1. UK Seabed Resources Ltd, under the sponsorship of the United Kingdom of Great Britain and Northern Ireland, is seeking approval of its plan of work from the International Seabed Authority for exploration for polymetallic nodules in the Clarion-Clipperton Zone.

2. UK Seabed Resources Ltd is a wholly owned subsidiary of Lockheed Martin UK Holdings Ltd (LMUK). Both UK Seabed Resources Ltd and LMUK are corporations formed under the laws of England and based in the United Kingdom. LMUK employs over 2,000 people at sites throughout the United Kingdom and is a leader in systems integration, working on major programmes spanning the aerospace, defence and civil sectors.

3. UK Seabed Resources Ltd holds rights granting it access to certain data, resources and subject matter expertise of Lockheed Martin Corporation (LMC) related to polymetallic nodule resource surveying, analysis and recovery methods. As such, it may seek to capitalize upon the extensive polymetallic nodule experience and technical capabilities of LMC developed through its historical work, recent analyses and ongoing efforts.

4. The area under application (application area) covers a total surface of approximately 116,000 square kilometres in the Clarion-Clipperton Zone. Separate and distinct from areas currently licensed or reserved by the International Seabed Authority, this is a new claim area for which UK Seabed Resources Ltd holds rights to extensive seabed survey data and samples.

5. UK Seabed Resources Ltd, LMUK and the Government of the United Kingdom are committed to environmentally responsible exploration of deep sea

* Submitted by UK Seabed Resources Ltd.

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resources and seek to conduct the proposed plan of work adhering to the highest environmental standards and in line with the long-standing commitments to responsible environmental stewardship of the Government of the United Kingdom and LMUK.

II. Sponsorship

6. The United Kingdom is the sponsoring State for the application for approval of a plan of work for exploration of the UK Seabed Resources Ltd. The United Kingdom ratified and acceded to the United Nations Convention on the Law of the Sea on 25 July 1997.

7. As clarified in the advisory opinion of the International Tribunal for the Law of the Sea of 1 February 2011, domestic regulations are an important element of responsible sponsorship. The United Kingdom has enacted deep sea mining legislation and has associated regulations in place, including the Deep Sea Mining (Temporary Provisions) Act, 1981, and the Deep Sea Mining (Exploration Licences) Regulations, 1984. The existing United Kingdom regulations enforce high standards of environmental stewardship, consistent with International Seabed Authority regulations, and reflect the long-standing national commitment of the United Kingdom to sustainable exploration and exploitation of deep sea resources.

8. The United Kingdom has confirmed that UK Seabed Resources Ltd meets all requirements of an exploration licence under its domestic regulations, including requirements of technical and financial capability, effective control and environmentally responsible exploration. As such, the United Kingdom has granted an exploration licence to UK Seabed Resources Ltd for the application area, effective upon the corporation's entering into contract with the International Seabed Authority.

9. The United Kingdom is a global leader in offshore and subsea engineering, with a long history of commercially successful, environmentally responsible recovery of offshore resources. These efforts have created a United Kingdom industry supply chain with a substantial range of products, services and expertise, generating an annual turnover of over £16 billion and supporting directly or indirectly more than 400,000 people in the United Kingdom.

III. Application area

10. The application area has been defined on the basis of extensive prospecting data, including nodule densities, mineral assays and environmental data. In accordance with the International Seabed Authority Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, the application includes a suggested division of the total application area (approximately 116,000 km^2) into two parts of equal commercial value. The equitability of this division is supported by extensive mineral and environmental data.

IV. Financial capability

11. UK Seabed Resources Ltd will draw upon resources made available to it by LMUK and/or third parties in order to carry out its plan of exploration. LMUK owns all of the capital stock of UK Seabed Resources Ltd and plans to include the corporation within the LMUK group of companies. LMUK expects to be in a position to support the UK Seabed Resources Ltd plan of exploration from LMUK available cash and income from ongoing operations. (LMUK audited financial statements demonstrating such financial capability have been provided to the International Seabed Authority).

V. Technical capability

12. As mentioned in paragraph 3 above, UK Seabed Resources Ltd holds rights granting it access to certain data, resources and subject matter expertise of LMC related to polymetallic nodule resource surveying, analysis and recovery methods. Relevant LMC experience from which UK Seabed Resources Ltd may seek to draw is described below:

(a) LMC was the prime contractor and the technology provider for the Ocean Minerals Company (OMCO) consortium, which was one of the leading participants in seabed minerals efforts in the 1970s and 1980s. It subsequently became the successor to OMCO and currently holds title to all assets of the former consortium. As part of its OMCO-related efforts, LMC led the development of sea floor polymetallic nodule resources within the Clarion-Clipperton Zone, including conducting extensive multi-year seabed surveys, developing end-to-end system designs for nodule collection and conducting at-sea testing of a large-scale prototype collection system;

(b) More generally, LMC has more than 50 years of experience in large-scale ocean systems design and development, including multiple deepwater efforts. Examples of projects include: specialized remotely operated vehicles and autonomous underwater vehicles; service capsules for subsea oil and gas construction and production; chamber manifold for subsea oil and gas wells; computer modelling system to predict vessel and payload motions during equipment launch and recovery; oceanographic and meteorological measurement buoy systems; deepwater ocean thermal energy conversion (OTEC) system; and survey vessel instrumentation and customization.

13. The UK Seabed Resources Ltd technical alliance team includes leading experts in the areas of ocean environmental issues, at-sea survey methods and techniques, and offshore technology, including former members of the original pioneering seabed nodule consortia.

14. In addition, as a United Kingdom corporation sponsored by the Government of the United Kingdom, UK Seabed Resources Ltd is well positioned to draw on the substantial capabilities available within the United Kingdom's offshore technology industry, including access to some of the most advanced remotely operated vehicles, autonomous underwater vehicles and ocean survey data-collection tools currently available.

VI. Proposed plan of work

15. Under the proposed plan of work, UK Seabed Resources Ltd will (a) collect and analyse a broad range of environmental data to obtain the environmental baseline, (b) conduct survey cruises and analysis to obtain ore body delineation and prioritize commercial recovery operations, and (c) continue systems engineering efforts to further assess the economic viability and overall technical approach of commercial resource recovery.

16. The proposed environmental baseline effort will focus initially on the benthic biological communities in the application area. UK Seabed Resources Ltd has identified a world-class team of leading deep sea ecologists and biologists with extensive benthic ecological experience in the abyssal Pacific Ocean, including the Clarion-Clipperton Zone, to lead this study. Once the initial commercial recovery target site has been identified through the exploration surveys, the environmental baseline effort will be expanded to address more localized phenomena, including water column physics, chemistry and biological communities. UK Seabed Resources Ltd will endeavour to integrate new baseline data with similar data of other contractors across the Clarion-Clipperton Zone so as to maximize the regional insights.

17. As environmental data-collection techniques and tools are continuing to evolve, the proposed plan of work includes periodic workshops to review and select the best techniques and tools for each study. These workshops will include scientists directly involved in the environmental baseline, together with invited external experts.

VII. Environmental protection

18. All proposed activities in the initial five-year period of the plan of work are environmentally benign, with no potential for causing serious harm to the marine environment, and do not require environmental impact assessment, in accordance with section IV.A of the Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area, issued by the Legal and Technical Commission. The timing of activities which go beyond those set forth in section IV.A of the Recommendations will be guided by obligations to the sponsoring State and a variety of business and other factors, and would not proceed without the relevant and necessary environmental studies and consultations.

19. During the first five years of the exploration programme, UK Seabed Resources Ltd will compile selected environmental data for use in decisions regarding environmental safeguards and monitoring activities pertinent to subsequent exploration activities and commercial resource recovery. Throughout the programme, it will engage with environmental and biological experts to keep abreast of environmental issues and concerns, and will consult with the secretariat of the International Seabed Authority to develop criteria for preservation reference areas.

20. UK Seabed Resources Ltd will, with the support of the Government of the United Kingdom, draw on the expertise in environmental protection of the United Kingdom offshore industry. With over 40 years of experience, the United Kingdom

offshore industry has developed extensive knowledge of safety and environmental stewardship. Safety technologies developed over the years address vessel hull design, protection against fire and explosion, emergency evacuation and personnel training, and many other areas. In addition, the United Kingdom offshore industry has experience working with environmental stakeholders to minimize the environmental footprint of operations, including control and mitigation of underwater sound, wastewater discharge and atmospheric emissions.

VIII. Advancing science

21. UK Seabed Resources Ltd is committed to the advancement of science through the exploration plan of work. In accordance with the aforementioned International Seabed Authority Regulations, UK Seabed Resources Ltd will facilitate the communication of scientific information to the international community regarding its environmental data and findings to improve the community's understanding of the deep sea environment.

22. UK Seabed Resources Ltd is also committed to carrying out comprehensive training programmes for developing State nationals nominated by the International Seabed Authority. In particular, the proposed training programmes will focus on enhancing the skills and experience of scientists, engineers, marine biologists, oceanographers, geophysicists and geologists. UK Seabed Resources Ltd will provide three separate training programmes: the at-sea exploration training programme, the fellowship programme and the engineering training programme. Over the first five-year plan of work these programmes will provide at least 10 trainees with a valuable opportunity to participate in at-sea exploration in order to gain field experience, take courses with leading scientific experts at world-class institutions around the world, or participate in the deep sea engineering programme of UK Seabed Resources Ltd.